

## CLAIMS

What is claimed is:

- 1 1. A circuit board comprising:
  - 2 a substrate;
  - 3 a plurality of through holes in the substrate; and
  - 4 a malleable, electrically conductive material filled within each of the
  - 5 through holes.
- 1 2. A circuit board as recited in claim 1, wherein the material is to receive an  
2 electrical contact of an electronic component when the electronic component is  
3 coupled to the circuit board.
- 1 3. A circuit board as recited in claim 2, wherein each said electrical contact is a  
2 pin.
- 1 4. A circuit board as recited in claim 2, wherein each said electrical contact is a  
2 solder ball.
- 1 5. A circuit board as recited in claim 1, wherein the material is an elastomer.
- 1 6. A circuit board as recited in claim 1, wherein the through holes are tapered.
- 1 7. A circuit board comprising:
  - 2 a substrate having a first surface and a second surface parallel to the first

3 surface; and

4 a plurality of tapered through holes in the substrate from the first surface  
5 to the second surface;

6 each of the through holes filled with an electrically conductive elastomer  
7 to receive a separate one of a plurality of electrical contacts of an electronic  
8 component, to couple the electronic component to the circuit board.

1 8. A circuit board as recited in claim 7, wherein the electrical contacts are pins  
2 that are inserted into the elastomer when the electronic component is coupled to  
3 the circuit board.

1 9. A circuit board as recited in claim 7, wherein the electrical contacts are solder  
2 balls that compress the elastomer when the electronic component is coupled to  
3 the circuit board.

1 10. A circuit board as recited in claim 7, wherein the elastomer includes  
2 conductive particles interspersed therein.

1 11. An apparatus comprising:  
2 a circuit board including  
3 a substrate having a first surface and a second surface parallel to  
4 the first surface,  
5 a plurality of tapered through holes in the substrate from the first

6 surface to the second surface, and

7 an electrically conductive elastomer filling each of the through

8 holes; and

9 an electronic component coupled to the circuit board, the electronic

10 component having a plurality of electrical contacts, each in physical and

11 electrical contact with the elastomer in a separate one of the through holes.

1 12. An apparatus as recited in claim 11, wherein the electrical contacts are pins,

2 each inserted into the elastomer in a separate one of the through holes.

1 13. An apparatus as recited in claim 11, wherein the electrical contacts are solder

2 balls, each of the solder balls compressing the elastomer in a separate one of the

3 through holes.

1 14. An apparatus as recited in claim 13, further comprising a fastener to secure

2 the electronic component to the circuit board.

1 15. An apparatus as recited in claim 11, wherein the elastomer includes

2 conductive particles interspersed therein.

1 16. A method of manufacturing a circuit board, the method comprising:

2 creating a plurality of through holes in a circuit board substrate; and

3 causing each of the through holes to be filled with a malleable, electrically

4 conductive material.

1 17. A method as recited in claim 16, wherein the material is an elastomer.

1 18. A method as recited in claim 16, wherein the through holes are tapered.

1 19. A method of mounting an electronic component to a circuit board, the  
2 method comprising:

3 aligning a plurality of electrical contacts of the electronic component with  
4 a corresponding plurality of electrical contacts of the circuit board, wherein each  
5 of the electrical contacts of the circuit board comprises a through hole in the  
6 circuit board filled with an electrically conductive elastomer; and

7 placing the electrical contacts of the electronic component in contact with  
8 the electrical contacts of the circuit board.

1 20. A method as recited in claim 19, wherein the electrical contacts of the  
2 electronic component are pins of a pin grid array, and wherein said placing the  
3 electrical contacts of the electronic component in contact with the electrical  
4 contacts of the circuit board comprises inserting each of the pins into the  
5 conductive elastomer in a separate one of the through holes.

1 21. A method as recited in claim 19, wherein the electrical contacts of the  
2 electronic component are solder balls of a ball grid array, and wherein said  
3 placing the electrical contacts of the electronic component in contact with the  
4 electrical contacts of the circuit board comprises compressing each of the solder

5 balls against the conductive elastomer in a separate one of the through holes.

1 22. A method as recited in claim 21, further comprising securing the electrical  
2 component to the circuit board.

1 23. A circuit board comprising:  
2 a substrate; and  
3 coupling means for removably coupling an electronic component to the  
4 substrate physically and electrically, without using a socket.

1 24. A circuit board as recited in claim 23, wherein said coupling means  
2 comprises a plurality of through holes.

1 25. A circuit board as recited in claim 24, wherein said coupling means further  
2 comprises an elastomer filled in each of the plurality of through holes.